

# **Internet Navigation: Making the Internet More Useful to our Members**

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## **Abstract:**

As AOL users spend more time on the Internet, AOL should strive to become the premier Internet access point. The Internet equivalents to AOL's core services (email, chat, bboards, published content) each can use navigation tools. AOL bought some companies to help with this, and they are licensing more technology and content.

This report will suggest upgrades to Internet navigation that AOL can build and provide to its users (E.1.a, E.2.i.2.a). Comments are welcome.

[references in paren's are to Mike Connor's FY1996 Business and Product Plan July 1995]

## **New Technologies:**

Technologies that we can use to build these systems include:

- Java for Applets and Applications, (E.2.m.1)
- "Societal Filtering", "Agent technology" for refining personal interests
- Advanced IR: meta-data extraction
- Alerting systems to proactively notify users. (1.g.2.e, E.2.f.2.d)
- Spider technology for cleaning up the net.
- Internet hardware, software, and mass storage are ever cheaper

## **Potential Competitor's Approach: Our Vulnerability**

Other online services are starting using off-the shelf technology: Web Browser; Unix machines for mail, chat, bboards; Internet for connectivity. None of this technology is likely to be ours. Large universities and companies are setting these up for 30-50k users now. AOL's decision to not develop Internet server technology (for distribution) leads us to integrating other's products or developing "one-off's" for ourselves.

The Internet is a distributed systems of servers, where we are building a large-scale cluster. The distributed architecture has allowed the Internet to grow quickly. The distributed architecture is more "scalable" because it leverages others' investments and decentralized communications. (There are some advantages to having a centralized system: e.g. control and monitoring. We must work to leverage these traits.)

The technical barrier to entry is dropping as the capital cost of setting up such Internet systems goes down. Making the Internet more user friendly is one way to distinguish ourselves as an "Internet service provider" in the near term.

## **Personal Email Services**

To enhance personal Email:

- Maintain exhaustive email address directory. These addresses can be culled from bboard, web, email list postings, other online services.

- Archiving personal email and making it searchable. Create personal addresses book automatically. This should happen on the client.

- Filters with ties to pagers and FAXing in an Internet environment including formatted documents.

- Small community email lists. Beyond a personal list of addresses, these would be usable by everyone on the list.

Buy vs. Build? The server system can be built from off-the-shelf components. Client side features are being worked on by Booklink, Netscape, and others. Searching on the client side requires a search engine.

### **Public Email Lists**

- Directory of public email lists (first cut on brand already).

- News group view of public lists to enhance browsing.

- User tools to create lists and monitor their use: moderated, digested, etc. (2.d.2.c, 2.e.2.d)

- Easy subscribe/unsubscribe to public lists. Currently AOL has a bad reputation because our users don't understand the arcane commands of listserv and majordomo. We can front-end this to make it easier for our users.

- Agent based alerting of new email lists. (1.g.2.e, E.2.f.2.d)

Should we buy or build? These tasks are integration tasks rather than large development efforts. I suggest we build these services.

### **Web Services (E.2.h)**

We bought Webcrawler, but have done little to enhance it or integrate it. Here are some additions to the web directory area:

- Page summaries for Webcrawler (based on automatic or manual summaries)

- Targeted directories: kids, sports, etc. These are targeted crawlers. These domains can be found by clustering interlinked domains.

- Enhanced searching using meta-data tags. Automatic tools exist for finding company names, people's names, locations in text. These can be useful for helping searches and agents.

- User's "voting" for best sites. Use our members as a resource to other members.

- Personalized agenting to alert users to new sites.

- Web cleanup: help webmasters clean up their sites by alerting them to missing links and moved pages. This requires looking at the web as one large online system.

- Better caching to provide more reliable Web access. This is a different goal from just being faster.

Buy or Build? Many companies are pursuing this. We purchased 3 companies that has experience in this area. I suggest we encourage our existing companies to pursue these goals allowing them to license technology as needed.

### **NetSearcher**

Where Webcrawler is a directory, it is not a mechanism to answer questions directly (ala Dialog). These aggregation services can be useful our users.

- Gathering information from multiple sites: Not just Webcrawler, but access those remote databases.

- Personalize the content: advances in "societal filtering" is helping this process go beyond keyword search.

- Personal Digital Newspapers. Presentation beyond ascii is helpful for browsing information from Agents.

- Include searching all newspapers, magazines, gov databases, and libraries.

- Drive standards so that our customers will get easy access to this information.

Buy or build? WAIS Inc was the most advanced company in this area. Maybe this expertise should be reincarnated. Given that experience, I suggest we not buy another company until we know what we would do with it (eg Architext).

### **CDROM Distribution**

As we move to CDROM distribution of our software, we can use it to aid navigation (on and off-line).

- HomePage slideshow: allow users to flip HomePages at high speed to get an idea of the breadth of the Internet. If the user likes one, then s/he can go there.

- Member "votes" for HomePages they like. This guides the slide show.

- Collect the votes to help aid other's navigation of the homepages.

- Collect the votes for demographic information for advertizing.

Buy vs. Build? We bought a CDROM company that could do this easily.

### **Conclusion**

Augmenting the Internet is easy given the existing people and experience. What this requires is to communicate it as a priority, set measurable goals, managed with vision. The SF development group could do these things.

Using the Internet as a beta-test environment, success would be significant use of the services. Then marketing could figure out how it should be integrated with the "user experience" on the brands.